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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,610	07/07/2005	Takahiko Suzuki	4592-007	8973

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EXAMINER	
HAILEMARIAM, EMMANUEL	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/541,610	SUZUKI ET AL.	
	Examiner	Art Unit	
	Emmanuel Hailemariam	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07/07/05*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *07 July 2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *07/07/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. Figure 20-23A and 23B should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because the abstract must be in a single paragraph form. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 22, 23 and 25 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contain subject matter, which was not described in the specification in such a way as to enable one skilled in the art to

which it pertains, or with which it is most nearly connected, to make and/or use the invention.

In claim 22, and 23, the sentence " step controlling the piezoelectric motor" is a single means claim.

Claim 25, the sentence " step of controlling a motor for causing haptic feedback" is a single means claim.

A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor. When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor.

A single means claim, i.e. where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S. C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714-715, 218 USPQ 195, 197 (Fed. Cr. 1983).

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 25 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. The term "various" in claim 25 lines 2,3 is a relative term, which renders the claim indefinite. The term "various" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vassallo et al. (US 7038667) in view of Bailey et al (US 2003/0201975).

AS to claim 1 and 22, Vassallo discloses a haptic feedback controller for controlling a controlled appliance, comprising: a base (fig.3a (112)); a cap (26) that is rotatable (see abstract, 26) with respect to the base ((fig.3a (112)); a ring-shaped stator that is fixed to the base and a ring-shaped rotor that is fixed to the cap (fig.3a, (26)), a rotation control device for controlling a rotational state of the detecting device for detecting the rotational state of the cap with respect to the base or the rotational state of the piezoelectric motor; and controlling a haptic feedback controller that controls a haptic feedback controller including a piezoelectric motor as a driving source for causing

haptic feedback ([0001],[0002],[0003],[0006] fig.20 (1100),(fig.23B(1200) , but does not disclose a piezoelectric motor. Bailey et al (hereinafter, Bailey), however, discloses a piezoelectric motor [0054]. It would have been obvious for one ordinary skill in the art to modify Vassallo devices by adding a piezoelectric motor as taught by Bailey. The reason is that the piezoelectric motors helps to function by translating electric input into mechanical motion.

AS to claim 2, Bailey discloses a haptic feedback controller according to claim 1, further comprising an input/output [0082] device that has a function for outputting rotational state information based on a detection result of the rotational state detecting device and a function for receiving an input of feedback information used for controlling the rotational state of the piezoelectric motor (fig.1 [0054]).

AS to claim 3, Vassallo discloses a haptic feedback controller according to claim 1, wherein a shock-absorbing member is provided; and Vassallo also discloses the stator (fig. 6 (240) and the rotor. (fig. 6 (246).

AS to claim 4,Vassallo discloses a haptic feedback controller according to claim 3, wherein a ring-shaped sliding member is provided between the stator and the rotor (col.2 lines 45-55), (fig.6 B (236).

AS to claim 5, Vassallo discloses a haptic feedback controller according to claim 1, further comprising a mechanism for changing a distance between the base and the cap in a direction in which pressure is applied (col.15 lines 36-39, and col.19 lines 40-46).

AS to claim 6, Vassallo discloses a haptic feedback controller according to claim 1, wherein the base and the cap are integrated with a bearing mechanism in between (col12. line 67, col.14. lines 3-5).

AS to claim 7, Vassallo discloses a haptic feedback controller according to claim 1, wherein the rotational state detecting device includes an encoding barcode fixed to an inner surface of the cap and a sensor unit fixed to an inner surface of the base, and by detecting movement of the encoding barcode with the sensor unit (308) (fig.9)(314), detects the rotational state of the cap (fig.2 (26)) with respect to the base (col.7 lines 37-43).

AS to claim 8, Balley discloses a haptic feedback controller according to claim 1, wherein the rotational state detecting device detects the rotational state of the piezoelectric motor by analyzing a current flowing through the piezoelectric motor [0041] [0054]

AS to claim 9, Vassallo discloses a haptic feedback controller according to claim 1, wherein the haptic feedback controller is ring-shaped (fig.2 (50), col.8 lines 8-13).

AS to claim 10, Vassallo discloses a haptic feedback controller according to claim 9, wherein the base and the cap are disposed so as to face one another with a predetermined gap between the respective outer circumferential parts thereof, and a plurality of contact switches disposed apart from one another in a circumferential direction are disposed on at least one of the outer circumferential parts (fig.1 (32), (26)).

AS to claim 11, Vassallo discloses a haptic feedback controller according to claim 9, wherein a plurality of contact switches disposed apart from one another in a circumferential direction are disposed on an inner circumferential surface of the haptic feedback controller (fig.2 (26)). Col.4 line 67, col. 5 lines 1-5).

AS to claim 12, Vassallo discloses a haptic feedback controller according to claim 1, wherein a non-slip member is provided on a bottom surface of the base (col.14 lines 65-67).

AS to claim 13, Bailey discloses a haptic feedback controller according to claim 1, further comprising a function for controlling the piezoelectric motor, when the user has rotated the cap, to maintain a rotated state [0054].

AS to claim 14, Bailey discloses a haptic feedback controller according to claim 1, further comprising a function for controlling the piezoelectric motor, when the user has rotated the cap, so that the rotor moves in a direction away from the stator [0054].

AS to claim 15, Bailey discloses a haptic feedback controller according to claim 1, further comprising a function for controlling the piezoelectric motor, when the user has caused a change in the rotational state of the cap, so that the rotational state after the change is maintained [0054].

AS to claim 16, Vassallo discloses a haptic feedback controller according to claim 1, to have various kinds of vibration produced, and/or to have various kinds of resistance applied to the cap (col.8 lines 62-67, col.9 line1), col.10 lines 35-39).

AS to claim 18 and 19 Vassallo discloses a haptic feedback controller according to claim 1, wherein the input/output device includes an input/output interface that can obtain a power supply (fig.9 (312) Col.18 lines 48-53) from the controlled appliance, and wirelessly exchange information with the controlled appliance (fig.2 (26)).

AS to claim 20, Vassallo discloses a haptic feedback controller according to claim 1, wherein the rotation control device and the rotational state detecting device are disposed in a space formed between the base and the cap (fig.2) (26).

AS to claim 21, Vassallo discloses a haptic feedback controller according to claim 1, wherein the controlled appliance is one of a PC, a household electrical good, a game system, a toy, a content editing appliance, a means of transport, a machine tool, and a medical tool (col.3 lines 55-67,col.4 lines 1-10).

AS to claim 22, 23 and 24, combined references of Vassallo and Bailey disclose a method of controlling a haptic feedback controller that controls a haptic feedback controller. In addition to that, Bailey discloses a piezoelectric motor as a driving source for causing haptic feedback, the method comprising: a step of controlling the piezoelectric motor, when the user has caused the piezoelectric motor to rotate, to

maintain a rotated state thereof; a rotor of the piezoelectric motor moves away from a stator of the piezoelectric motor [0054].

AS to claim 25, Vassallo discloses a method of transmitting messages using a haptic feedback controller, comprising: a step of controlling a motor for causing haptic feedback to have various kinds of sound emitted, to have various kinds of vibration produced, and/or to have various kinds of resistance applied to transmit a message relating to language information to the user (fig.1 (14) col.4 lines 37-46).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vassallo et al. (US 7038667) in view of Bailey et al (US 2003/0201975) in further view of Lopes (US 6066225).

teach . . .

Vassallo et al (as modified by Bailey), but

AS to claim 17, ~~the combined invention~~ does not disclose a plurality of light sources disposed apart from one another in a circumferential direction. However, Lopes discloses a plurality of light sources disposed apart from one another in a circumferential direction (col. 1 line 9-25).

It would have been obvious to modify the plurality of light source in circumferential direction as taught by Lopes with the device of Vassallo, (as modified by Bailey) because this will allow user to identify the location of the knob to give useful information.

Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Hailemariam whose telephone number is 571-270-1545. The examiner can normally be reached on M-F 8:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amare Mengistu can be reached on 571-270-1550. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emmanuel Hailemariam 08/09/07

AMARE MENGISTU
SUPERVISORY PATENT EXAMINER